

**Catalogue of American
Amphibians and Reptiles 919.**

Palacios-Aguilar, R. 2019. *Craugastor guerreroensis*.

***Craugastor guerreroensis* (Lynch, 1967)
Guerreran Robber Frog**

Eleutherodactylus guerreroensis Lynch 1967a: 216. Type locality: "3 km N Agua del Obispo, Guerrero, México, 980 m." Holotype: Kansas University (KU) 86873, an adult male 39.2 mm snout-vent length, collected by J. S. Waddick, 8 June 1964 (examined by the author).

Eleutherodactylus (Craugastor) guerreroensis: Hedges 1989:317. By implication.

Craugastor guerreroensis: Duellman 1993:148. By implication.

Craugastor guerreroensis: Glaw, Köhler, Hofrichter, and Dubois 1998. *Lapsus*.

Craugastor guerreroensis: Crawford and Smith 2005:551. By implication.

Craugastor (Hylactophryne) guerreroensis: Hedges, Duellman, and Heinicke 2008:45.

Craugastor guerreroensis: Liner and Casas-Andreu 2008:10. *Lapsus*.

CONTENT. No subspecies are recognized in this taxon.

DESCRIPTION. *Craugastor guerreroensis* is a moderately sized species (in seven adult males, snout-vent length [SVL] range =31.7–39.2 mm, mean [standard deviation] =35.5 mm [± 2.85 mm]; in two adult females, SVL = 50.4–55.5 mm, mean [standard deviation] =53 mm [± 3.61 mm]) with a moderately long, broad head (head length/SVL in adult males =0.373–0.403, in adult females =0.355–0.358; head width/SVL in adult males =0.399–0.435, in adult females =0.391–0.423). The snout is truncated in lateral view and nearly rounded in dorsal view. The top of the head is slightly concave. The lips are slightly flared. Nostrils

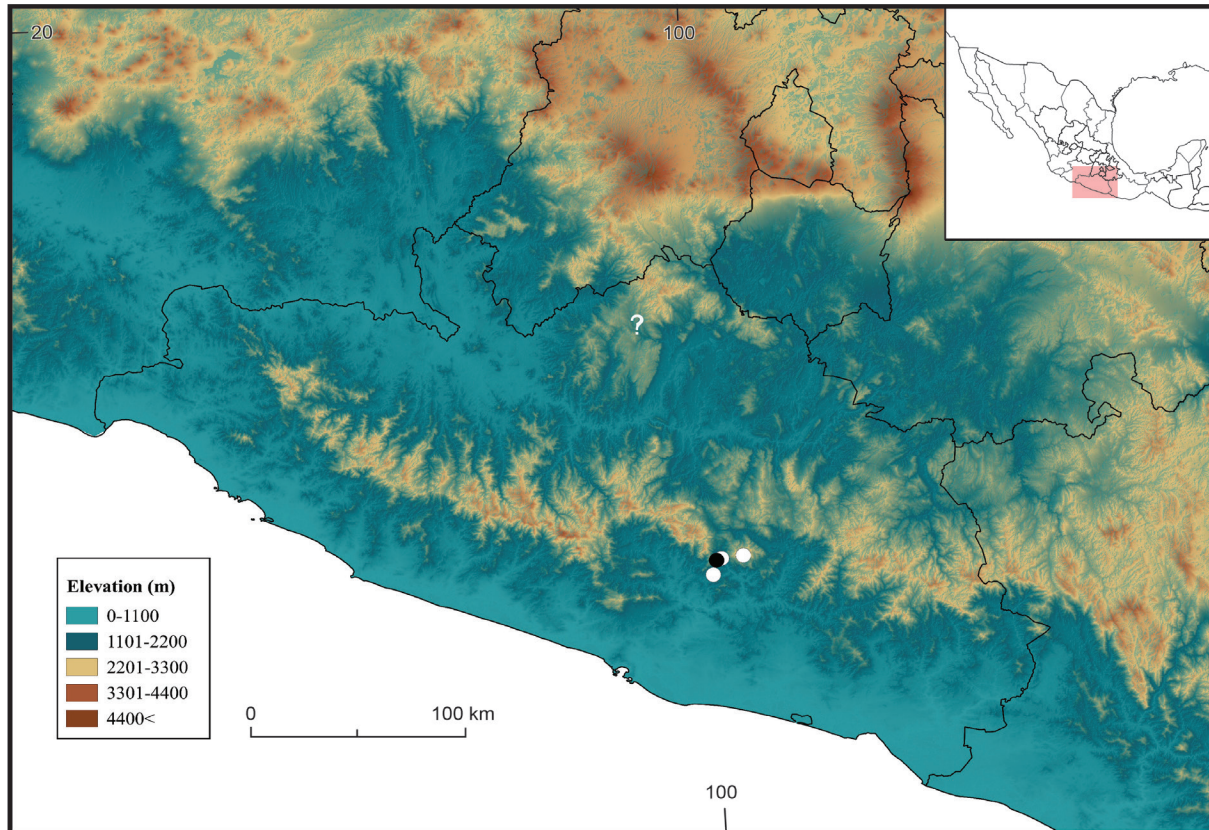


FIGURE. Adult female (MZFC 30709; SVL 50.4 mm) *Craugastor guerreroensis* from the vicinity of Coaxtlahuacán, Guerrero, Mexico. Photographed by the author on 3 July 2016.

are directed anterolaterally at the tip of the snout. Cranial crests absent. The tympanum is visible, though partially concealed with supratympanic folds on each side.

Arms are slender and long (arm length/SVL in adult males =0.447–0.580, mean [standard deviation] =0.506 [± 0.049]; in adult females =0.444–0.468, mean [standard deviation] =0.456 [± 0.017]). Relative length of the fingers is III-IV-II-I in decreasing length. The fingers are not webbed and are without any distinctive keel or flare. The finger discs are broadly expanded and truncated, being widest on Finger III. The subarticular tubercles are globular and either rounded or ovoid. Supernumerary tubercles are absent on the fingers. The palmar tubercles are elevated and ovoid, and the bigger one is bifid. Prepollex in adult males is not enlarged, and nuptial excrescences are not present.

The hind limbs are relatively long (shank length/SVL 0.561–0.608 in adult males, 0.513–0.625 in adult females; tarsus length/SVL 0.344–0.490 in adult males, 0.367–0.470 in adult females). Tarsal fold is weakly developed. The heels do not overlap when the hind limbs are held together towards the cloacal opening at right angles to the body. The only tubercles present on the underside of the



MAP. Distribution of *Craugastor guerreroensis*. Black circle represents the type locality, open circles represent other records. The question mark represents a dubious record (CNAR 2386; see **Comments**).

feet are subarticular tubercles and two paired metatarsal tubercles. Subarticular tubercles are round and globular. Metatarsal tubercles are ovoid and globular, the outer being larger than the inner metatarsal tubercle. Relative size of the toes is: 4-5-3-2-1 in decreasing length. Toe tips are definite and broadly expanded. The toes have vestigial webbing between them.

The skin on the dorsal surfaces is smooth, grading to slightly granular on lateral surfaces. A series of greatly enlarged tubercles on the side of the body is always present from the rear end of the tympanum to the groin and occasionally covering the inner and dorsal portion of the shanks. The skin on throat and venter is smooth throughout. The ventral disc is absent in both sexes. Males have vocal slits. The pupil is horizontally elliptical. The palpebral membrane is translucent and unpatterned. The tongue is round and free

posteriorly. The vomerine teeth are in two distinct clumps, separated by a distance equal to about one fourth of the diameter of each clump. The choanae are ovoid and positioned perpendicularly to the vomerine clumps.

Color in life of an adult female (MZFC 30709; Museo de Zoología “Alfonso L. Herrera” de la Facultad de Ciencias, UNAM, Mexico City) follows. Dorsal surfaces of the head, and body are mottled with dark-olive green and olive green. Ventral surfaces are mostly white and purplish-brown at the level of the junction of the arms and head. The forearms, and legs show dark-olive green bars, more definite in the forearms. Tympanum dark brown with a mark that extends to the posterior margin of the eye. Each iris is bronze with a brown mark in the anterior and posterior ends. Each iris is also reticulated with black.

DIAGNOSIS. The following diagnosis can

differentiate *Craugastor guerreroensis* from other Mesoamerican representatives of the *Craugastor alfredi* group (as defined by Lynch 1966). Vocal slits are present in males of this species, absent in all other members of the *Craugastor alfredi* group except *Craugastor decoratus*, *Craugastor polymniae*, and *Craugastor spatulatus*. Females are larger in *Craugastor guerreroensis* than most other species (maximum size >50 mm SVL vs 36–46 mm), except *Craugastor decoratus* (maximum SVL 60 mm). Additionally, *Craugastor decoratus* has wide dark bands on the thighs. *Craugastor guerreroensis* can be differentiated from *Craugastor decoratus* by having a distinctive row of lateral tubercles from the rear end of the tympanum to the groin and lacking any obvious markings on the flanks. Additionally, *Craugastor guerreroensis* is also the only species of the *Craugastor alfredi* group known to occur on the Pacific versant of Mexico, west of the Isthmus of Tehuantepec.

PHYLOGENETIC RELATIONSHIPS. *Craugastor guerreroensis* is in the *Craugastor alfredi* group as defined by Lynch (1966, 1967b). Based on comparisons of jaw musculature with other direct-developing frogs, *Craugastor guerreroensis* was placed into the Middle American clade by Lynch (1986). Based on morphology, the species was placed into the subgenus *Hylactophryne* by Hedges et al. (2008) and Padial et al. (2014). Based on morphological similarities, *Craugastor guerreroensis* was assigned to the *Craugastor bocourti* species group by Hedges et al. (2008).

PUBLISHED DESCRIPTIONS. The species was described and the holotype was illustrated by Lynch (1967a). The morphological variation, natural history, and distribution of the species were reported by Palacios-Aguilar (2017).

ILLUSTRATIONS. A **color photograph** of a calling male was published by Stuart et al. (2008); color photographs of an adult female

from Coaxtlahuacán, Guerrero, Mexico were presented by Palacios-Aguilar (2017) and Johnson et al. (2017). **Black-and-white line drawings** representing the dorsal view of the holotype, details of the hand, and a profile view of the head were published by Lynch (1967a).

DISTRIBUTION. *Craugastor guerreroensis* is known from the humid oak and cloud forests of the central portion of the Mexican state of Guerrero, on the Pacific versant of the Sierra Madre del Sur at an elevation range of 980–1700 m above sea level. Maps of the general range were published by Saldaña de la Riva and Pérez Ramos (1987) and Stuart et al. (2008). A map showing the type locality and records of other members of the *Craugastor alfredi* group was presented by Campbell et al. (1989), and a simple dot map was published by Palacios-Aguilar (2017).

FOSSIL RECORD. None.

PERTINENT LITERATURE. Relevant citations are listed by topic: **checklists and faunal lists** (Campbell 1999; Flores-Villela 1991, 1993; Flores Villela and Gerez 1988, 1994; Frost 1985; Glaw et al. 1998, 2000a, 2000b; Gorham 1974; Harding 1983; Johnson et al. 2017; Liner 1994; Liner and Casas-Andreu 2008; Palacios-Aguilar 2016; Palacios-Aguilar and Flores-Villela 2018; Pérez-Ramos et al. 2000; Saldaña de la Riva and Pérez Ramos 1987; Smith and Smith 1976, 1993), **common names** (Frank and Ramus 1995; Liner 1994; Liner and Casas-Andreu 2008; Mitchell 2017; Sokolov 1988; Wrobel 2004), **comparisons to new species** (Campbell et al. 1989; Canseco-Márquez and Smith 2004; McCranie and Smith 2006; Smith 2005), **conservation status** (Johnson et al. 2017; Lips et al. 2004; Stuart et al. 2008; Wilson et al. 2013), **taxonomy, systematics, and phylogenetics** (Crawford and Smith 2005; Frost 2018; Frost et al. 2006; Hedges 1989; Hedges et al. 2008; Lynch 1986; Padial et al. 2014).

REMARKS. *Craugastor guerreroensis* is a poorly known species with scarce information on its biology, and is represented by less than a dozen specimens deposited in three scientific collections: CNAR (Colección Nacional de Anfibios y Reptiles, Instituto de Biología, Universidad Nacional Autónoma de México (UNAM), Mexico City), KU (University of Kansas Biodiversity Institute), and MZFC (Museo de Zoología “Alfonso L. Herrera” de la Facultad de Ciencias, UNAM, Mexico City). One female collected in Cueva La Pedrera de Cajales, Guerrero (CNAR 4285-1) on 18 December 1975 contained several developed ova.

The specific microhabitat in which the type series was obtained is unknown, and the original description by Lynch (1967a) only mentioned that the type series was collected from the Chilpancingo region of Guerrero in the Sierra Madre del Sur. Most of the specimens I collected and examined were obtained from caves in humid oak and cloud forests in the southcentral portion of the mountain ranges south of the city of Chilpancingo.

ADDITIONAL VERNACULAR NAMES.

“Rana Ladradora de Guerrero” was used by Liner and Casas-Andreu (2008) as a Spanish equivalent of the English vernacular name proposed herein. The name “Rana Ladrona de Guerrero” used by Liner (1994) is an incorrect translation of the same vernacular name. “Guerrero Patterlove” was provided by Mitchell (2017).

ETYMOLOGY. The name *guerreroensis* is a toponym referring to the Mexican state of Guerrero where the type series was collected and to which the species is restricted.

COMMENTS. A record of *Craugastor guerreroensis* from “Cueva del Nacimiento del Río San Antonio, Oaxaca” was reported by Reddell (1981: p. 249, Figure 87). That locality would place *Craugastor guerreroensis* in sympatry with *Craugastor decoratus purpureus*.

Although the species is associated with cave systems in Guerrero, the locality in the Sierra de Juárez in northern Oaxaca seems unlikely and probably is a misidentification [not shown on Map].

A single specimen (CNAR 2386) apparently was collected near the town of Teloapan in the Balsas Depression of Guerrero, a region characterized by having lower elevations and drier habitats (see Map; locality labeled as “?”), however, it is possible that the locality data associated with that specimen represent a cataloguing error because the associated name on the field tag is *Rana aurora draytonii* (Palacios-Aguilar 2017).

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